

2012
**ONR Naval
S&T Partnership
Conference & ASNE Expo**

Naval Science & Technology Strategic Plan

RADM Matthew Klunder
Chief of Naval Research



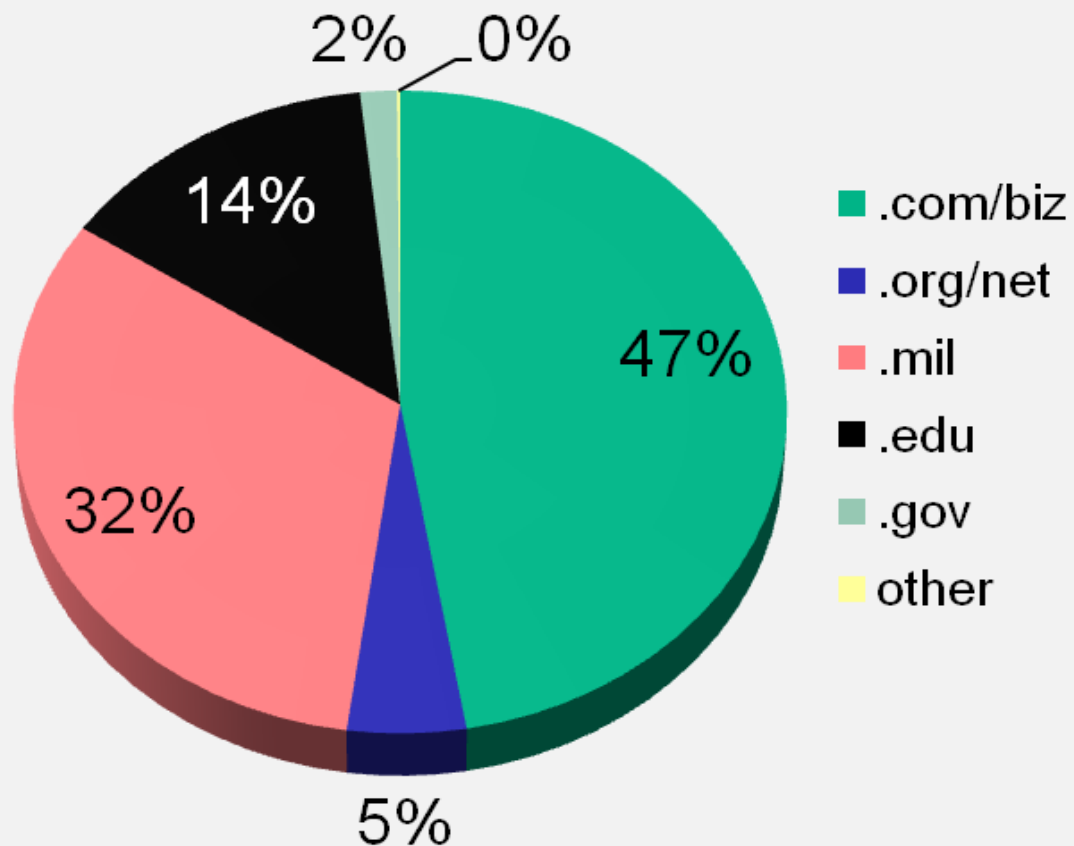
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Welcome!

Demographics





Global Context

- Continuing Conflict in Afghanistan
- WMD Proliferation
- Violent Extremists and Non-State Actors
- Rising Peer Competitors
- Security of Global Commons (Cyber/Piracy)
- Climate Change & Natural Disasters
- Revised Defense Strategy, Re-Balance to Pacific
- Budget Pressures

An Uncertain Dynamic Environment

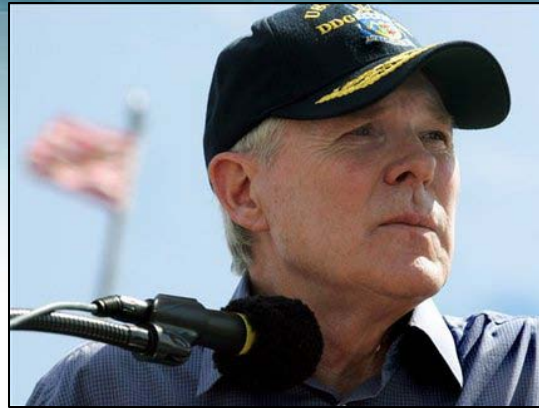


Leadership Response



General Amos
Commandant of the USMC

“...experimentation and innovation, will help our Nation maintain global relevance by developing solutions that continue to outpace emerging threats.”



Honorable Ray Mabus
Secretary of the Navy

“To keep our technological advantage, we plan to invest in science and technology and research and development to maintain the knowledge base and keep it moving forward.”



Admiral Greenert,
Chief of Naval Operations

“The reach and effectiveness of ships and aircraft will be greatly expanded through new and updated weapons, unmanned systems, sensors and increased power.”

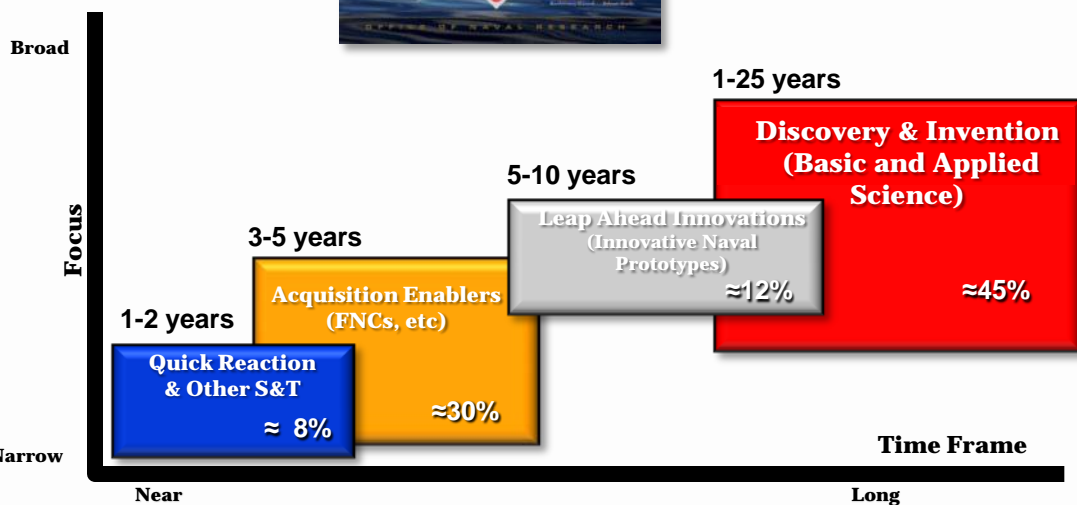


S&T Strategic Plan



S&T Plan Focus Areas:

- Autonomy & Unmanned Systems
- Assure Access to Maritime Battlespace
- Information Dominance
- Platform Design & Survivability
- Power & Energy
- Strike & Integrated Defense
- Warfighter Performance
- Total Ownership Cost
- Expeditionary & Irregular Warfare



Tech Solutions



FNCs



INPs



D&I



Autonomy



**Perception and
Intelligent
Decision
Making**



**Scalable and
Robust
Distributed
Collaboration**



**Human/Unmanned
Systems Collaboration**



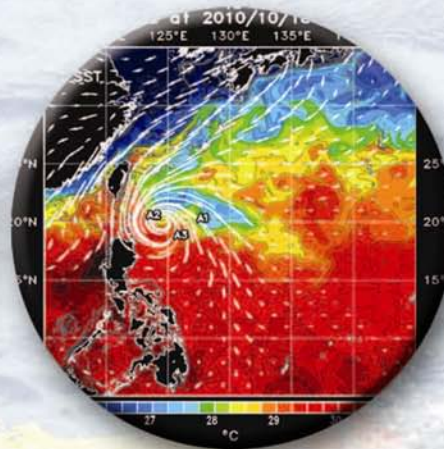
**Intelligence Enablers
and Architectures**



Assure Access



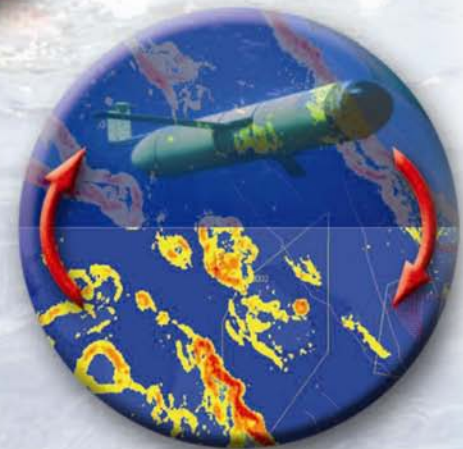
**Improved
Autonomous
Sensing**



**Environmental
Predictive
Capabilities**



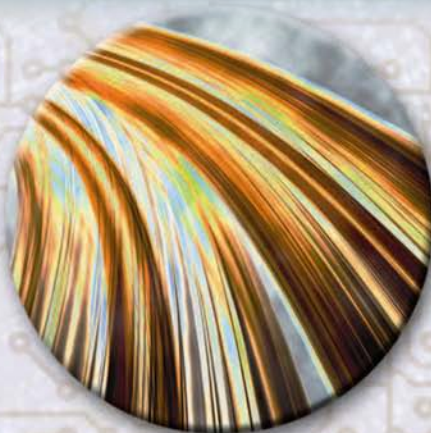
**Undersea
Dominance**



**Adaptation to
the Environment**



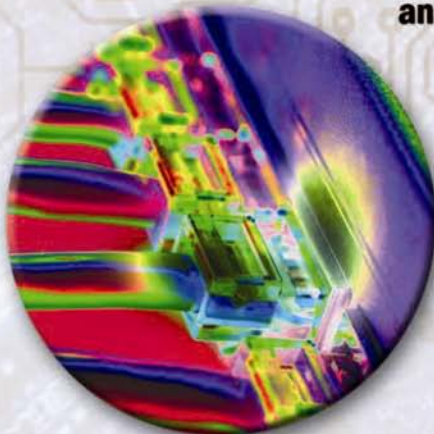
Information Dominance



**Communications
and Networks**



**Computational Environment
Architecture**



**Computer Network
Operations**



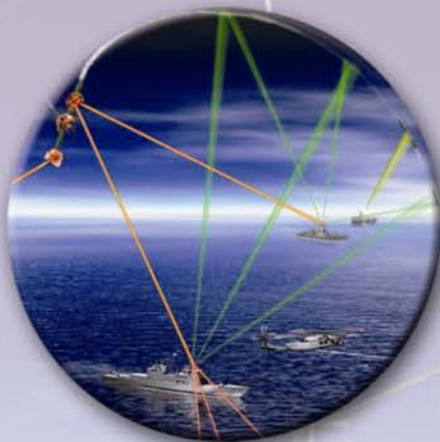
**Information Space for Integrated C2, ISR,
and Combat Systems Decision Making**



**Spectrum
Dominance**



Power Projection



**Integrated
Layered Defense**



**Time-Critical
Precision Strike**



**Future Naval
Fires**



**Extended Threat
Neutralization**





Platform Design Research Areas



**Optimized Payload
Capabilities**



**At-Sea
Sustainment**



**Advanced
Mobility**



**Affordable Fleet/Force
Modernization**



Power & Energy Research Areas



**Energy Security/
Alternative Fuels**



**Energy
Systems**



**Efficient
Power**



**Pulsed
Power**



Warfighter Performance



**Human System
Design and
Decision
Support**



**Bio-Engineered
Systems**



**Manpower, Personnel,
Training and Education**



**Warfighter Health
and Survivability**



Total Ownership Cost



**Life-Cycle and
Sustainment Cost**



**Platform
Affordability**

**Crew Manning and
Operational Capabilities**



Key Challenges

- Threats in the undersea domain
- Fully integrating manned/unmanned systems
- Cyberspace and ensuring the electromagnetic spectrum
- Improved ship, aircraft and weapon effectiveness
- Enabling affordability and reliability
- Warfighter Performance (Training and Medical)





ONR-Global Operating Forward

ONRG-DC

ONR Global Liaison Office
CNO Executive Panel
CNO(N2/N6)
FLT CYBERCOM/COMTENTHFLT
CNO(N81)

Mechanicsburg
NAVSUP

ONRG-London - ADs
Technical Director
Executive Officer

Naples
COMUSNAVEUR
COMUSNAF
COMSIXTHFLT

ONRG-Prague - ADs

Newport
CNO SSG

Norfolk
COMUSFLTFORCOM
COMNAVAIRFOR
COMSUBFOR
COMMARFOR
COMSECFLT
COMNECC
COMNWDC

Camp Lejeune
CG II MEF

ONRG-Tokyo - ADs

Yokosuka
C7F

Okinawa
CG III MEF

Bahrain
COMNAVCENT
COMFIFTHFLT

ONRG-Singapore - ADs
Commanding Officer

ONRG-Santiago - ADs

**Develop Partnerships
Leverage Global S&T Advances
Avoid Technology Surprise**



Naval STEM

Many opportunities for partnerships:



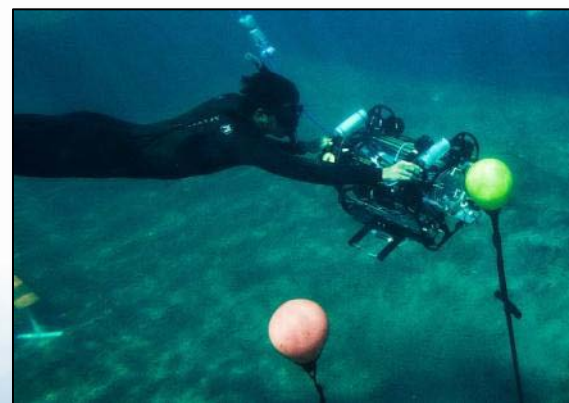
STEM Camps



FIRST Robotics



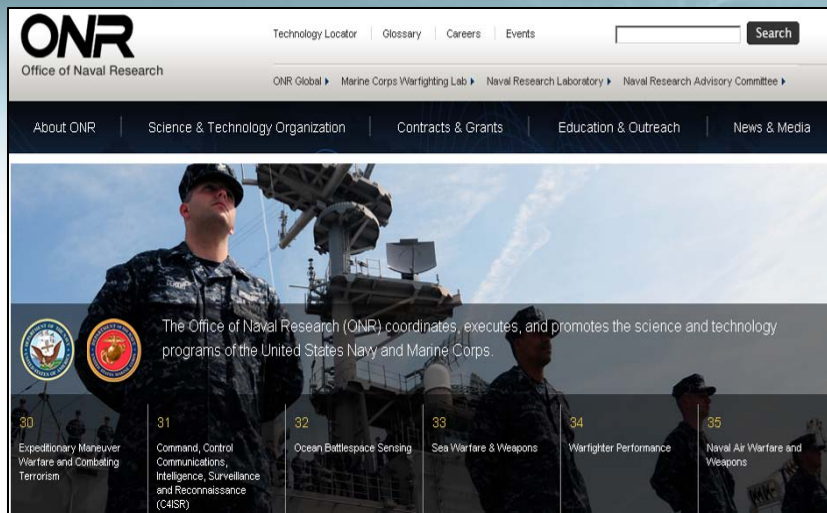
RoboBoat



RoboSub



Stay in Touch



www.onr.navy.mil



Coming Soon:

- Focus Area Forums
- At ONR
- Watch for the announcement!